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DATE: November 19, 1997

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TO: ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231
ATTENTION: GROUP DIRECTOR, GROUP 2600

FAX NUMBER: (703) 308-5401

RE: U.S. Patent Appl'n For:
RETURN PATH FILTER
Ser. No.: 08/818,231; Filed: 03/14/97
Group Art Unit: 2611
Examiner: John Miller
Att'y. Ref. No.: 450.022PA

8/18/23/

FROM: LAWRENCE P. TRAPANI, ESQ.

NUMBER OF PAGES TO FOLLOW: 10

IF THERE ARE ANY PROBLEMS DURING TRANSMISSION, PLEASE CALL
(315) 422-4323.

MESSAGE: Enclosed for filing is:

- (1) Petition Transmittal and duplicate copy.
- (2) Petition to Make Special for New Appln. under MPEP § 708.02, VIII.
- (3) Detailed Discussion of References under MPEP § 708.02, VIII.

Lawrence P. Trapani 11/19/97
Lawrence P. Trapani
Reg. No. 32,086
Attorney for Applicants

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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In re Application of:
Andrew F. Tresness et al.

Serial No.: 08/818,231

Att'y Ref. No.: 450.022PA

Filed: 03/14/97

Group Art Unit: 2611

Title: RETURN PATH FILTER

Examiner: J. Miller

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231
ATTENTION: GROUP DIRECTOR, GROUP 2600

PETITION TRANSMITTAL

SIR:

Enclosed please find the following documents in connection with the filing of a petition to **MAKE SPECIAL** under MPEP § 708.02, VIII:

1. Petition to Make Special for New Application under MPEP § 708.02, VIII.
2. Detailed Discussion of References under MPEP § 708.02, VIII.

Please charge the petition fee of \$130 to our Deposit Account No. 13-3919. A duplicate copy of this transmittal is enclosed.

Respectfully submitted,

TRAPANI & MOLLDREM


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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Andrew F. Tresness et al.

Serial No.: 08/818,231

Att'y Ref. No.: 450.022PA

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Group Art Unit: 2611

Title: RETURN PATH FILTER

Examiner: J. Miller

**ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231
ATTENTION: GROUP DIRECTOR, GROUP 2600**

**PETITION TO MAKE SPECIAL FOR
NEW APPLICATION UNDER MPEP § 708.02, VIII**

Applicants hereby petition the Office to make the above-identified patent application special pursuant to 37 C.F.R. § 1.102(d) and MPEP § 708.02, VIII. The application was filed on March 14, 1997, and was assigned to Group Art Unit 2611 on June 30, 1997. The application has been assigned to Examiner, John Miller. Through a telephone conversation with Mr. Miller on November 13, 1997, Applicants learned that the application has not yet been examined and is not expected to be examined for at least another six (6) months to a year without being made special.

All of the claims in the application are directed to a single invention. If the Office determines that all of the claims presented are not directed to a single invention, applicant will make an election without traverse as a prerequisite to the grant of "special" status.

A pre-examination search was made to uncover references deemed most relevant to the subject matter claimed in the instant application. The field of search included (Class/Subclass): 330/55; 348/1, 6; 358/349; 359/125, 161; 370/69.1 and 455/188, 6.1.

The references uncovered in the search are listed in a Form PTO-1449 and discussed in detail in an Information Disclosure Statement, both of which were filed with the application on March 14, 1997. A copy of the references uncovered in the search were also filed with the application, and therefore are already of record.

There is also submitted herewith a detailed discussion of the references deemed most closely related to the subject matter encompassed by the claims of the application, which discussion points out, with the particularity required by 37 C.F.R. § 1.111 (b) and (c), how the claimed subject matter is patentable over said references.

The fee required by 37 C.F.R. § 1.17(i) is to be paid by charging Deposit Account No.: 13-3919, the sum of \$130.00.

Respectfully submitted,

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Andrew F. Tresness et al.

Serial No.: 08/818,231

Att'y Ref. No.: 450.022PA

Filed: 03/14/97

Group Art Unit: 2611

Title: RETURN PATH FILTER

Examiner: J. Miller

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231
ATTENTION: GROUP DIRECTOR, GROUP 2600

DETAILED DISCUSSION OF REFERENCES UNDER MPEP § 708.02, VIII

SIR:

In connection with the petition to make special under MPEP § 708.02, VIII, filed herewith, Applicants respectfully submit that the following patent references and technical article are deemed most closely related to the subject matter of the claims of the above-identified application:

<u>Patent No.</u>	<u>Patentee</u>	<u>Date Issued</u>
5,434,610	Loveless	Jul. 18, 1995
5,425,027	Baran	Jun. 13, 1995
5,379,141	Thompson et al.	Jan. 3, 1995
5,130,664	Pavlic et al.	Jul. 14, 1992
4,963,966	Harney et al.	Oct. 16, 1990

Technical Article: Designing the Return System for Full Digital Services, by D.A. Stoneback and W.F. Beck, pp. 269-277.

A detailed description of these references are found in Applicants' Information Disclosure Statement filed with the application on March 14, 1997.

In the instant application, claims 1-11 are directed to an apparatus for controlling the return path loss in a two-way communication system. The apparatus comprises:

- a) forward path filter means
- b) return path filter means
- c) a combined resonant circuit, and
- d) attenuator means.

As claimed in claim 1-11, the forward path filter means passes signals in a forward path frequency band of the communication system and includes a resonant circuit component. The return path filter means passes signals in a return path frequency band of the communication system and includes a resonant circuit which is coupled to the resonant circuit component of the forward path filter means. A combined resonant circuit is formed, at least in part, by the resonant circuit of the return path filter means and the resonant circuit component of the forward path filter means. The return path filter means includes the attenuator means which attenuates the signals in the return path frequency band as they pass through the return path filter means.

The patents to Loveless, Baran, Thompson et al., Pavlic et al., and Harney et al. all disclose diplex filters being used for processing both the forward and return paths in a CATV cable system (See specific citations in Applicant's Information Disclosure Statement). Loveless and Pavlic show conventional circuit architectures for diplex filters employing flat loss or attenuation. Such architectures employ an assembly of separately connected devices (e.g., highpass filter, lowpass filter, and attenuator), each of which has a separate housing and associated connectors. The diplex filters of these patents do not have "a resonant circuit included in the return path filter means which is coupled to (a) resonant circuit component of said forward path filter means," as claimed in claim 1-11. The diplex filters of these patents do not have "a combined resonant circuit ... formed, at least in part, by the resonant circuit of the return path filter means and the resonant circuit component of the forward path filter means," as claimed in claim 1-11. There is no suggestion from any of the references that the claimed "combined resonant circuit" be established between the return and forward path filters, especially when employing attenuation in the return path.

Furthermore, the Stoneback et al. article teaches away from employing an attenuator in association with the return path filter, in a CATV cable system, because it was thought to be more difficult and expensive to manufacture than an alternative approach (i.e., equalizer). In the apparatus claimed in claims 1-11, the circuit components for the forward and return path filters are minimized because of the "combined resonant circuit" (i.e., there is a sharing of components between the two filter). Thus, the manufacture of the claimed apparatus is simplified and the cost is minimized.

Accordingly, it is respectfully submitted that claims 1-11 are patentably distinct from the above-mentioned references (which are deemed most closely related to the subject matter of claims 1-11), and are in condition for allowance.

Turning now to claims 12-24 and 39-42, a passive filter is claimed for controlling the return path loss in a communication system which has a forward path and a return path. The passive filter claimed in claims 12-24 comprises:

- a) a housing of less than about 5 cubic inches;
- b) a first passive filter network, mounted in the housing, which passes signals in the forward path;
- c) a second passive filter network, mounted in the housing, which passes signals in the return path;
- d) a passive attenuator included in the second passive filter network.

The passive filter claimed in claims 39-42 comprises:

- a) a housing of less than about 5 cubic inches;
- b) a passive filter network, mounted in the housing, which passes signals (selectively) in the forward path and in the return path;
- c) a passive attenuator circuit associated with the passive filter network.

The patents to Loveless, Baran, Thompson et al., Pavlic et al., and Harney et al. all fail to disclose or suggest a diplex-type filter and an attenuator contained in "a housing having an interior volume of less than about 5 cubic inches," as claimed in claims 12-24 and 39-42. Furthermore, the Stoneback et al. article would discourage any thought to construct a diplex-type filter with flat loss, to control the return path loss in a 2-way CATV cable system. Accordingly, claims 12-24 and 39-42 are patentable over the above references, and are in condition for allowance.

Turning now to claims 25-28, methods of tuning the passive filter of claim 22 are claimed. Claim 22 is a dependent claim having claim 12 as its base claim. Thus, method claims 25-28 are dependent on base claim 12. Therefore, claims 25-28 are patentable for the reasons supporting patentability of claims 12-24. In addition, claims 25-28 are patentable for the following reasons.

The methods of claims 25-28 all concern the use of ferrite core inductors, which are fixed value components (i.e., they are not tunable). The patents to Loveless, Baran, Thompson et al., Pavlic et al., and Harney et al. do not disclose use of ferrite core inductors. In the Background of the application (pages 6-7), Applicants describe the prior usage (known to them) regarding ferrite core inductors in diplex filters and windowed highpass filters.

Claims 25-28 claim methods of tuning the passive filter of claim 22 (which includes at least one ferrite core inductor). In accordance with the method, an inductance value for the ferrite core inductor is determined for the passive filter in which the inductor is to operate. The claimed methods comprise the step of

adjusting the position of said at least one ferrite core inductor in said passive filter until the effective inductance of said at least one ferrite core inductor is substantially equal to said determined inductance value.

The claimed methods use the mutual inductance sensitivity of a ferrite core inductor to effect inductance tuning in the passive filter. This method step makes possible the use of standard capacitance values (and therefore, less expensive capacitors) for the filter, and the inductance values of the inductors used in the filter do not have to be so critical (See discussion on pages 6-7 of the application). Neither the above-cited references nor the prior usage known to Applicants (as expressed in the Background of the Application) disclose or suggest such a method step. Accordingly, claims 25-28 are patentable over the above references and known prior usage of ferrite core inductors, and are in condition for allowance.

Turning now to claims 29-34, further apparatus for controlling the return path loss in a communication system are claimed. These claims refer to a "windowed" highpass filter

and the aspect of attenuating the window in the windowed highpass filter. A windowed highpass filter is a multi-band filter having at least a highpass passband and a bandpass passband (or "window"). (See FIGS. 6 and 15). The apparatus of claims 29-34, comprise:

- a) a windowed highpass filter; and
- b) attenuator means, coupled to said windowed highpass filter, for attenuating the window of said windowed highpass filter by a predetermined amount.

Highpass filters are intended to permit the passage of signals above a certain cutoff frequency and reject signals below that cutoff frequency (of course, there may be a transition region between the pass and reject bands). A windowed highpass filter is intended to define a relatively narrow passband (i.e., window) below the cut off frequency. The patent to Baran discloses a "triplex" filter which defines a window above a high frequency passband (i.e., a high frequency return path). In this patent, and in known windowed highpass filters, the object is to "open up" a window in a normally rejected band. There is no suggestion from Baran or prior usage known to Applicants that the window be attenuated, as claimed in claims 29-34. The prior teaching is all directed to fully opening a window, not partially opening a window (i.e., attenuating the window). Accordingly, claims 29-34 are patentable and in condition for allowance.

Turning now to claims 35-38, further methods for controlling the return path loss in a communication system are claimed. These claims refer to "windowed" filter operation, but are not limited to classical windowed highpass filters. For example, their scope includes the windowed filter arrangement disclosed in Baran. The methods of claims 35-38, comprise the steps of:

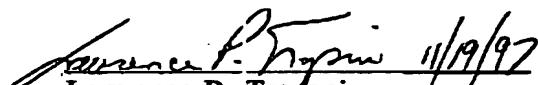
- (a) passing signals in the forward path of the communication system through a highpass filter passband;
- (b) passing signals in the return path of the communication system through a bandpass filter passband or window; and
- (c) attenuating the window by a predetermined amount such that the signals passing through the window are attenuated thereby.

In Baran, there is a highpass filter passband for allowing the television programming channels to pass in a forward path. Baran also includes a bandpass filter passband or window above the highpass passband, for passing signals in a high frequency return path. However, there is no provision in Baran for attenuating the high frequency window. In Baran and other known windowed filters, the object is to fully, not partially, open the window. Accordingly, claims 35-38 are patentable and in condition for allowance.

In view of the above discussion, Applicants verily believe that the claims pending in this application (claims 1-42) are patentable over the above-cited references and known prior usage (as describe in the Background of the application). Early and favorable consideration of the application is most earnestly solicited. If for any reason the Examiner feels that consultation with applicants' attorney will be helpful with the prosecution of this case, he is invited to call applicants' attorney for an interview.

Respectfully submitted,

TRAPANI & MOLLDREM

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